REMARKS

The Examiner is thanked for the due consideration given the application.

Upon entry of this amendment claims 39 and 41-55 are pending in the application. Claim 40 has been cancelled by this amendment. Independent Claim 39 has been amended to generally incorporate subject matter from claim 40 and to better set forth the present invention. Independent claim 52 has been amended to better set forth the fluorescent aspects of the present invention. Claim 41 has been amended to not depend on a cancelled claim.

No new matter is believed to be added to the application by this amendment.

Entry of this amendment is respectfully requested because it cancels a claim and places the application in condition for allowance.

Rejection Under 35 USC §103(a)

Claims 39-55 have been rejected under 35 USC §103(a) as being unpatentable over WHITTEN et al. (U.S. Publication 2002/0051985) in view of WOHLSTADTLER et al. (U.S. Publication 2001/0021534). This rejection is respectfully traversed.

The present invention pertains to a biosensor device including a patterned substrate that is illustrated, by way of example, in Figure 1 of the application, which is reproduced below.

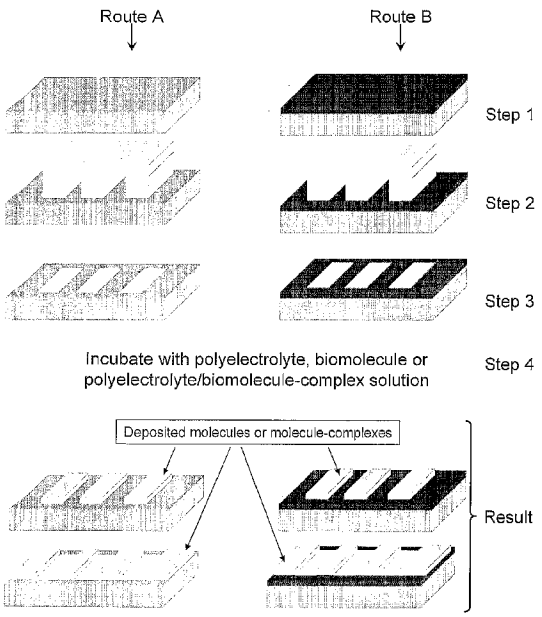


Fig. 1

The present invention describes for the first time non-covalent immobilization of a conjugated polyelectrolyte (CPE), the "*reporter molecule*", to a substrate containing a hydrophobic/hydrophilic patter. The CPE interacts by non-covalent means with a biomolecule, the "*receptor*", which is either co-adsorbed or adsorbed separately to the patterned substrate with the CPE. The binding of the biomolecule results in a detectable change of property of the reporter. The binding of a target analyte to the receptor results in a detectable change of property of the reporter.

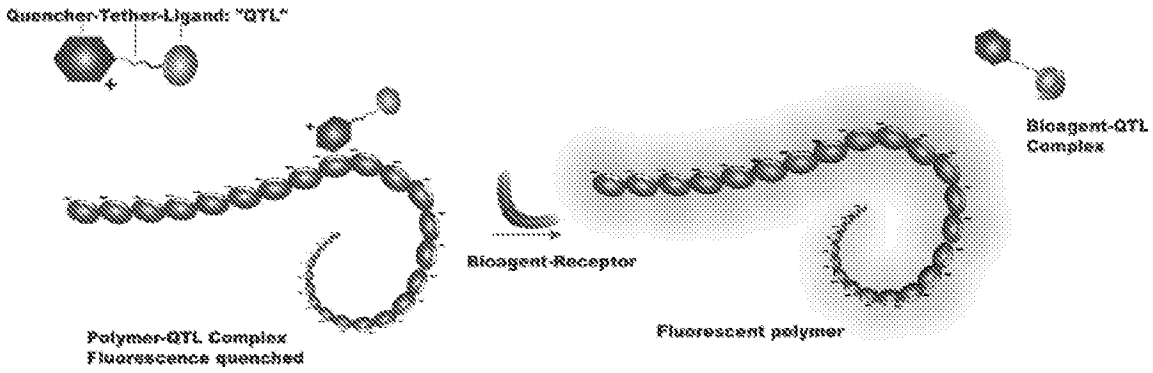
Instant independent claim 39 now more specifically sets forth the present invention, reciting:

> "*at least one reporter molecule selected from the group consisting of a conjugated polyelectrolyte, copolymers or homopolymers of thiophene, pyrrole, aniline, furan,*

phenylene, vinylene and derivatives thereof, a property of said reporter molecule being detectable, said reporter molecule being capable of direct interaction with a biomolecule, whereby said interaction will cause a change in said detectable property, said reporter molecule being non-covalently bound to selected ones of said hydrophilic and hydrophobic areas on said patterned substrate."

WHITTEN et al. describe a biosensor concept comprising a conjugate between a conjugated polymer and a "*QTL*"-group. QTL stands for Quencher-Tethering element-Ligand. The "*Quencher*" is a group able to quench the fluorescence of the conjugated polymer. The Tethering element is a spacer or linkage between the Quencher and the Ligand. The Ligand is a moiety able to bind to the "*bioagent*", which is the compound to be analysed.

In the polymer-QTL approach, the quencher forms a relatively weak complex with the polymer, and the formation of the large and tight complex between the bioagent and the ligand results in a pulling away of the quencher from the polymer and reversal of the fluorescence quenching, see column 4 lines 35-40 and Figures 2, 4 and 5.



Thus, the QTL-approach is based on a concept fundamentally different from that of the present invention. In the QTL-approach, the fluorescence is quenched when the analyte is not present. When the analyte is present, the quenching is reversed and fluorescence may be measured and correlated to the amount of analyte. As is clear from the above cited description and Figures, there is no direct interaction between the conjugated polymer and the receptor or the analyte upon detection. The interaction is instead through a separate synthetic entity, the QTL-group. The conjugated polymer is "lit up" when the QTL groups is removed by the ligand-receptor interaction.

The present invention, on the other hand, is based on the concept of ***direct*** interaction between the conjugated polymer and the receptor-ligand. This concept of direct interaction has been introduced into amended claim 39.

Such a direct interaction is neither taught nor inferred by WHITTEN et al. WHITTEN et al. thus does not stand as a basis to assert *prima facie* unpatentability.

WOHLSTADTLER et al. describe a method to for detecting an analyte using electroluminescence on an electrode (Abstract, paragraph 23). A method for confining an analyte in a hydrophobic/hydrophilic pattern is also described in WOHLSTADTLER et al. (paragraph 39). In contrast, the present invention does not use an electrode and the use of the hydrophobic/hydrophilic pattern is also completely different.

As a result, one of ordinary skill and creativity would not produce a claimed embodiment of the present invention from a knowledge of WHITTEN et al. and WOHLSTADTLER et al. A *prima facie* case of unpatentability has thus not been made.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Double Patenting Rejection

Claims 39, 40, 44 and 47-48 have been provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending application no. 10/514,191 (U.S. Publication 2006/0175193) in view of WOHLSTADTER et al.

This rejection is respectfully traversed.

It is believed that the claims of the present invention have been amended in a fashion that differentiates over the

above-referenced application and WOHLSTADTER et al. so as to obviate the double patenting rejection.

Withdrawal of this double patenting rejection is thus respectfully requested.

Alternately, the Examiner is respectfully requested to forestall action on this provisional double patenting rejection in order to allow the issue to ripen by having one of the copending applications mature into a patent.

Conclusion

The Examiner is thanked for considering the Information Disclosure Statement filed November 22, 2006 and for making the references therein of record in the application.

Prior art of record but not utilized believed to be non-pertinent to the instant claims.

The rejections are believed to have been overcome, obviated or rendered moot. No issues remain. This issuance of a Notice of Allowability is accordingly respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

/Robert E. Goozner/

Robert E. Goozner, Reg. No. 42,593
Customer No. 00466
209 Madison Street, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

REG/hc